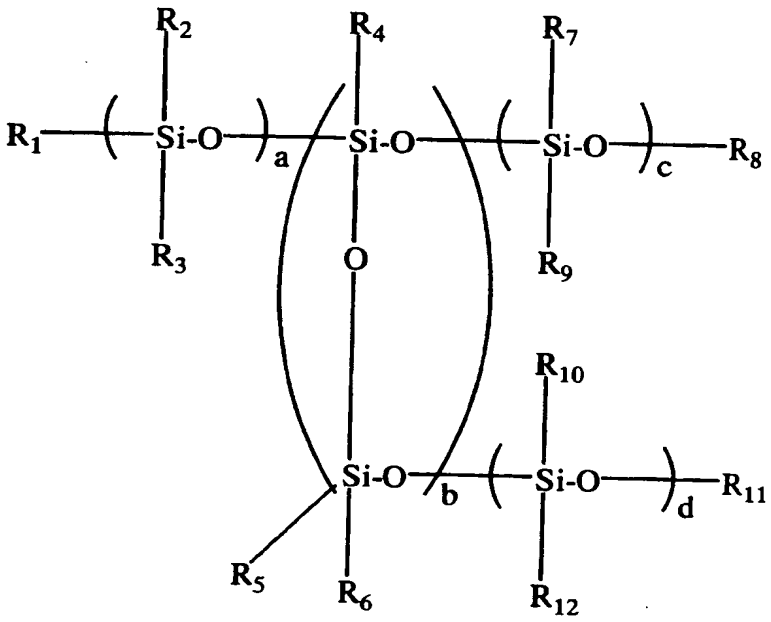
**WHAT IS CLAIMED IS:**

1. A solid electrolyte, wherein the solid electrolyte is formed by baking a thin film in which a silicon compound contains a metal salt compound.

2. The solid electrolyte according to claim 1, wherein said metal salt compound is a lithium salt compound.

3. The solid electrolyte according to claim 1, wherein said thin film contains at least either of a polysilane which is soluble in organic solvent or a silicone compound, as a silicon compound.

4. The solid electrolyte according to claim 1, wherein said silicone compound has a structure represented by the following general formula (1)



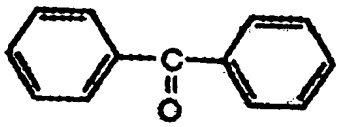

...(1)

wherein $R_1$ to $R_{12}$ are groups selected from the group

consisting of aliphatic hydrocarbon groups containing 1 to 10 carbon atoms, for a part of which a halogen group or a glycidyloxy group may substitutes, aromatic hydrocarbon groups containing 6 to 12 carbon atoms and alkoxy groups containing 1 to 8 carbon atoms and may be identical with or different from one another, and a, b, c and d are integers including 0 and satisfy a relationship of $a + b + c + d \geqq 1$.

5. The solid electrolyte according to claim 1, wherein said thin film contains at least one of peroxide and benzophenon derivative.

6. The solid electrolyte according to claim 5, wherein said benzophenon derivative has a benzophenon skeleton represented by the following formula (2).



...(2)

7. The solid electrolyte according to claim 5, wherein said peroxide has at least one or more linkages represented by -C (= O) - O - O - in the molecular structure.

8. The solid electrolyte according to claim 1, wherein said solid electrolyte was prepared by baking at a temperature of 400°C or higher.

9. A capacitor element, wherein said capacitor element has a structure in which the solid electrolyte according to claim 1 is sandwiched between a pair of electrodes.